



SAFETY REGULATION

no. 9



Governing the
Construction, Operation
and Maintenance
of
EXTRACTORS
in Industry

NS/KA8
 L1/S1
 #9
 1959

PROPERTY OF
 RECEIVED

NOV 25 1959

Division of State Library
 Archives and History
 TRENTON

COPY NO. 2



Effective May 15, 1959.

BUREAU OF ENGINEERING & SAFETY,

N.J. DEPARTMENT OF LABOR & INDUSTRY,
 Trenton, N.J.

Division of Labor

This Safety Regulation No. 9 supersedes the following

*"Rules and Regulations Governing the
Construction, Operation and Maintenance
of Extractors in Industry" which was
filed with the Secretary of State on
July 1, 1954.*

C O N T E N T S

Section		Page
	Foreword	2
1	Purpose and Scope	3
1.1	Purpose	3
1.2	Scope	3
1.3	Exceptions	3
2	Definitions	3
2.1	Approved	3
2.2	Commissioner	3
2.3	Extractor	3
3	General Requirement	3
4	Construction	3
4.1	Rated Speeds and Loads	3
4.2	Cover	3
4.3	Interlock	3
4.4	Shell	4
4.5	Mounting	4
4.6	Speed Limitations	4
4.7	Starting and Stopping Controls	4
5	Operation	4
5.1	Rated Speeds and Loads	4
5.2	Speed	4
5.3	Load	4
5.4	Interlock Operation	4
6	Maintenance	4
6.1	Record of Maintenance	4
6.2	Basket	4
6.3	Bearings	4
6.4	Mounting	5
6.5	Overhauled Machines	5
6.6	Rebuilt Machines	5

FOREWORD

This Regulation establishes reasonable standards for the safeguarding of extractors by proper construction, operation and maintenance. This Regulation restates without substantial revision the requirements of a Department Regulation on the same subject promulgated in 1954.

This Regulation is promulgated by the Commissioner of Labor and Industry of the State of New Jersey under authority vested in him by law:

R. S. 34:1-20. The commissioner may make and publish rules and regulations not inconsistent with law as he shall deem necessary to enforce the provisions of this title.

Whenever any condition is found to exist in contravention of any provision of this title, the commissioner may by written order signed by him specifying the things to be done and the time for compliance require such conditions to be corrected.

The provisions of Title 34 which refer to the subject matter regulated are:

34:6-62. Machine Guards. The owner or person in charge of any factory, workshop, mill or place where the manufacture of goods is carried on where machinery is used, shall provide, in the discretion of the commissioner, friction clutches for stopping shafting, and belt shifters or other mechanical contrivances for the purpose of throwing on or off belts or pulleys. Whenever practicable, all machinery shall be provided with loose pulleys. All vats, pans, saws, planers, power presses, foot presses, cogs, gearing, belting, shafting, set screws, drums and machinery of every description shall be properly guarded. No person shall remove or make ineffective any safeguard around or attached to such machinery, vats or pans, while the same are in use, unless for the purpose of immediately making repairs thereto, and all such safeguards so removed shall be promptly replaced. If the machinery, or any part thereof, or any vat, pan or vessel containing molten metal or hot liquid is in a dangerous condition or is not properly guarded, the use thereof may be prohibited by the commissioner and a notice to that effect shall be attached thereto. Such notice shall not be removed until the machinery is made safe and the required safeguards are provided. In the meantime such unsafe or dangerous machinery, vats, pans, or vessels containing molten metal or liquid shall not be used. . . .

Prior to its promulgation, this Regulation was reviewed and approved by the New Jersey State Industrial Safety Committee.

SECTION 1 - PURPOSE AND SCOPE

- 1.1 PURPOSE. The purpose of this Regulation is to establish minimum standards of safety for the construction, operation and maintenance of extractors.
- 1.2 SCOPE. This Regulation applies to all extractors used in any factory, workshop, mill or place where the manufacture of goods is carried on.
- 1.3 EXCEPTIONS. In cases of practical difficulty or unnecessary hardship, the Commissioner may grant exceptions from this Regulation provided that a request for such exception has been made in writing. Exceptions can only be granted when it is clearly evident that a satisfactory, safe and sanitary condition is attained, but cannot be granted in any case where conflict would be created with mandatory requirements of the law.

SECTION 2 - DEFINITIONS

- 2.1 *Approved* - approved by the commissioner.
- 2.2 *Commissioner* - the Commissioner of Labor and Industry or his authorized representative.
- 2.3 *Extractor* - a power driven centrifugal machine having a revolving basket exceeding twelve (12) inches in diameter.

SECTION 3 - GENERAL REQUIREMENTS

All extractors subject to this Regulation shall conform to all applicable regulations contained herein.

SECTION 4 - CONSTRUCTION

- 4.1 RATED SPEEDS AND LOADS. Extractors shall be designed for the maximum centrifugal stresses produced by the rated charge loads and speeds. The rated loads and speeds shall be indicated on a plate attached to the machine where easily visible, in letters not less than one-quarter ($\frac{1}{4}$) inch in height. The maximum permissible speed shall be given in revolutions per minute.
- 4.2 COVER. Each extractor designed for manual loading shall be equipped with a cover at least No. 20 gauge metal or its equivalent. Wire mesh not exceeding two (2) inch centers may be substituted where operations require visibility and flammable and toxic materials are not involved.
- 4.3 INTERLOCK. Each extractor manually loaded or unloaded shall be equipped with an interlocking device that will prevent the power operation of the basket while the cover is open.

NOTE: *This device should not prevent the movement of the basket by hand to insure an even loading.*

- 4.4 SHELL. The shell of the extractor shall be constructed of materials which are adequate to withstand the maximum centrifugal force created by the revolving basket under full rated speed and loads.
- 4.5 MOUNTING. Each extractor shall be effectively secured in position on the floor or foundation so as to eliminate unnecessary vibration.
- 4.6 SPEED LIMITATIONS. Each power source driving an extractor shall be provided with a suitable speed limiting device.
- 4.7 STARTING AND STOPPING CONTROLS. All starting and stopping devices shall be located so as to be convenient to the operators. A braking mechanism shall be incorporated in the design for adequate control under emergency conditions. All starting devices shall be protected against accidental operation.

SECTION 5 - OPERATION

- 5.1 RATED SPEEDS AND LOADS. All personnel operating extractors shall be thoroughly familiar with the rated speed and load of each extractor.
- 5.2 SPEED. The extractor shall in no case be operated at a speed greater than the manufacturer's rating.
- 5.3 LOAD. The extractor shall in no case be loaded with a charge exceeding the manufacturer's rating. Personnel operating the machine must be thoroughly familiar with this limitation, and every possible effort should be exerted by supervisory personnel to assure rigid adherence to this limitation.
- 5.4 INTERLOCK OPERATION. No extractor shall be used when the interlock is inoperative. Operators shall be instructed to close down the extractor and notify supervision if the interlock is not functioning properly.

SECTION 6 - MAINTENANCE

- 6.1 RECORD OF MAINTENANCE. A record shall be made of all maintenance work including preventive maintenance, giving the dates and the name of the person making the inspection or performing the maintenance.
- 6.2 BASKET. The exterior of the basket including strengthening rings, hoops or bands, should be inspected at least every six months to determine the condition of the basket. A record of such inspection should be kept on file in the plant and be available for reference. At least once a year, the basket should be thoroughly cleaned. If the basket shows any sign of corrosion, loss of strength or mechanical failure, sufficient to make its operation hazardous, it shall not be further used for extraction purposes until it has been placed in a safe operating condition.
- 6.3 BEARINGS. All bearings should be thoroughly inspected at least once a year.

- 6.4 MOUNTING. All mounting bolts should be inspected and tightened at least twice a year.
- 6.5 OVERHAULED MACHINES. All extractors overhauled to the extent that major elements of unlike kind have been replaced, should have the original nameplate supplemented by one revealing the name of the company overhauling the machine and indicating the replaced elements.
- 6.6 REBUILT MACHINES. All rebuilt extractors should have the original nameplate supplemented by one revealing the name of the company rebuilding the machine and the nature of any deviations from the original design.